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10/524,504	10/28/2005	Simon Hugh Cassia	10653.002	6235

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ART UNIT	**PAPER NUMBER**
2187	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,504	CASSIA ET AL.	
	Examiner	Art Unit	
	Fred W. Detschel	2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 October 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

The instant application having Application No. 10524504 has a total of 38 claims pending in the application; there are 3 independent claims and 35 dependent claims, all of which are ready for examination by the examiner.

1. INFORMATION CONCERNING OATH/DECLARATION

Oath/Declaration

The applicant's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in **37 C.F.R. ' 1.63**.

2. STATUS OF CLAIM FOR PRIORITY IN THE APPLICATION

As required by **M.P.E.P. ' 201.14(c)**, acknowledgment is made of applicant's claim for priority based on an application filed in Great Britain on 06 Aug 2003.

3. INFORMATION CONCERNING DRAWINGS

Drawings

The applicant's drawings submitted 14 Feb 2005 are acceptable for examination purposes.

4. OBJECTION TO ABSTRACT

Applicant's abstract includes the statement 'FIG 4 to accompany abstract'. Applicant is reminded of the proper content of an abstract of the disclosure. The sheet or sheets presenting the abstract may not include other parts of the application or other material. See MPEP Section 608.01 (b) 'Abstract of the Disclosure'.

5. REJECTIONS NOT BASED ON PRIOR ART

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 21-24** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "economical time" in **Claims 21, 22 and 23** is a relative term which renders the claim indefinite. The term "economical time" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Examiner assumes 'economical time' is the time the system requires in optimizing the network resources.

The term "cost parameters" in **Claim 23** is a relative term which renders the claim indefinite. The term "cost " is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Examiner assumes the 'cost' is considered by the system in optimizing network resources.

The term "when network costs are inexpensive'" in **Claim 24** is a relative term which renders the claim indefinite. The term " when network costs are inexpensive" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Examiner assumes the optimization of the network results in the network costs being inexpensive.

7. REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC ' 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-16, and 18-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kim et al, US 20020129375** (hereinafter **Kim**), in view of **Belknap et al, US 5586264** (hereinafter **Belknap.**

The applicant's claims have been carefully reviewed by the examiner of record and it is found that the differences between the subject matter sought to be patented and the prior art now of record are such that the claimed invention would have been obvious at the time of the applicant's invention.

As per Claim 1,

Kim teaches:

A method of preloading data on a cache **(222, Fig. 2)** in a local machine **(140, Fig. 2),** wherein said cache is operably coupled to a data store in a remote host machine **(212, Fig. 2),** the method characterised by the steps of:

- determining a user behaviour profile **(Page 2, paragraph 0030, line 9-10)** for said local machine ;
- retrieving data relating to said user behaviour **profile (Page 2, paragraph 0030, lines 9-10)** from said data store **(126, Fig. 2).** *Kim teaches the system preloads a selection of videos on a subscriber's set top box STB) based on a usage profile.*

Kim does not teach:

- predicting a time for data to be required by a user;

- retrieving data in response to a predicted time;

Belknap teaches:

The data buffer manager schedules the transfers in accordance with at least a predicted time that an individual one of the temporally-ordered segments will be required to be output *(to the user)* from the data buffer **(Column 3, lines 12-15).**

Kim and **Belknap** are analogous art because they are from the same field of endeavor of providing video-on-demand including preloading selected data into distributed buffers.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify preloading as described by **Kim** with completing the buffer preload based on meeting predicted times of buffer access as taught by **Belknap.**

The motivation for doing so would have been that **Belknap** teaches several ways in which video data can be stored in a cost effective manner **(Belknap: Column 2, lines 43-45).**

Therefore, it would have been obvious to combine **Kim** with **Belknap** to obtain the invention as specified in **Claim 1.**

- calculating a safety margin of time **(Kim: Page 10, paragraph 0122, line 1- Page 11, line 5)**; Kim *teaches a delay factor (safety margin), T_i, is introduced by preloading short video segments based on a subscriber's profile. These segments are used as a safety margin prior to downloading the subscriber video selection. Examiner notes that, as proxy caching and prefetching were conceived for reducing the burdens of network latency and congestion, it can be argued said safety margin is implicitly disclosed by every prefetching cache of the prior art. The time a cache chooses to prefetch data, is the time it predicts the data to be*

required, minus a possible safety margin in order to compensate for network irregularities, in other words: predicted time - safety margin = prefetch time.

- and
- preloading said retrieved data to said cache **(Kim: Page 7, paragraph 0085, lines 2-3),** at a time at or before said safety margin prior to said predicted preload time, such that said data is made available to a user of said cache when desired **(Belknap: Column 12, lines 66-67).**

As per Claim 2, wherein said step of determining is performed by a preload function **(Kim: 216, Fig. 2)** in said local machine operably coupled to said cache **(Kim: 222, Fig. 2)** and/or a preload function **(Kim: 216, Fig. 2)** in a remote host machine **(Kim: 126, Fig. 2)** operably coupled to said data store **(Kim: 102, Fig. 2) .**

As per Claim 3, further characterised by the step of: predicting, by at least one preload function, a data type required by said cache user based on said determined user behaviour profile **(Kim: Page 11, paragraph 0122, lines 2-4).** ***Kim*** *teaches that based on a subscriber's profile, short video segments (data type) are preloaded into the subscriber's local memory (cache).*

As per Claim 4, further characterised in that the step of predicting, is performed by said at least one preload function **(Belknap: Column 3, line 12, data buffer manager),** and comprises predicting an event time for said data type to be required by said user **(Belknap: Column 3, lines 12-15)** based on said determined user behaviour profile.

As per Claim 5, wherein said step of predicting includes one or more of the following steps:

- predicting said event time based on said data type;
- observing one or more previous user behaviour patterns **(Kim: Page 2, paragraph 0030, lines 9-10)**; or
- predicting said event time following a trigger on another event.

As per Claim 6, further characterized in that the step of predicting comprises predicting a preload time **(Belknap: Column 3, lines 12-15)**, by said at least one preload function based on said predicted data type.

As per Claim 7, wherein said predicted preload time is based on one or more of the following parameters:

(i) An estimate of a cache re-load rate;

(ii) An availability of a communications network resource **(Kim: Page 5, paragraph 0064, lines 5-8**);

(iii) A previously achieved cache reload rate;

(iv) A cost parameter of one or more available communications network resources, for example a resource at a location and/or at a time;

As per Claim 8, further characterized by the steps of: determining a current time; and calculating a subsequent event or preload time therefrom **(Kim: Page 9, paragraph 106, lines 5-11).** ***Kim*** *discloses a subscriber could request an item for a specific time. The central office server (COS, 126, Fig. 2) would schedule retrieval of the item from a remote system and 'push'*

it to the cache at the scheduled time. In order to calculate the 'push' time, it is obvious that the COS would need determine a current time and calculate the 'push' time.

As per Claim 9, wherein said step of calculating a safety margin includes the step of: predicting (410) an uncertainty of an event time, for example based on said data type and/or prevailing network conditions **(Kim: Page 10, paragraph 0122, line 1- Page 11, line 5)**. *As proxy preloading of cache and prefetching were developed for reducing burdens of network latency and congestion, a safety margin was implicitly disclosed. The time a server chooses to preload data to cache is the time it predicts the data to be required, minus a possible safety margin, in order to compensate for network irregularities. In other words: predicted time - safety margin = prefetch time.*

As per Claim 10, wherein said safety margin is either set manually or is based on a monitoring of previous event occurrences **(Kim: Page 11, paragraph 0122, lines 2-5)**. *The safety margin (delay factor) is based on previous event occurrences including subscriber's profile.*

As per Claim 11, wherein said event includes one or more of the following:

(i) A diarised event for said user **(Kim: Page 9, paragraph 106, lines 5-11)**; *Kim teaches the user (subscriber) can request that a particular title be available at a particular time (diarised event) on his set top box (STB).*

(ii) A task to be performed by said user;

(iii) A personal interest identified for said user;

(iv) A routine behaviour pattern identified for said user;

(v) A predictable behaviour pattern identified for said user;

or

(vi) A foreseeable behaviour pattern identified for said user.

As per Claim 12, further characterised by a step, prior to said step of preloading, of: determining and implementing a timing margin (Tmmdg) to allow for potential unavailability of said communications network before commencing said step of preloading **(Kim: Page 10, paragraph 0121, lines 1-4).**

As per Claim 13, further characterised by the steps of:

- calculating a safety margin of time **(Kim: Page 12, paragraph 0132, lines 4-7);**
- determining whether a predicted timing of an event is within a time period of less than or equal to the current time minus said safety margin and/or said timing margin **(Kim: Page 5, paragraph 0064, lines 5-9),** *since the AVA is an intelligent algorithm which optimizes the distribution of videos across the network, it would be obvious to a person of ordinary skill in the art that it was necessary for the AVA to determine that predicted timing of an event would include the current time minus a safety margin*; and
- commencing said step of preloading in response to a positive determination **(Kim: Page 9, paragraph 0106).** *Kim teaches a user can request a particular item be available at a particular time.*

As per Claim 14, the method further characterised by an intermediate step of;

- determining (455) whether said cache has capacity to store said data to be preloaded **(Belknap: Column 38, lines 2-5).** *Belknap teaches if the buffer (cache) does not have enough space, the preload (write) is not accepted.*

As per Claim 15, further characterised by a step, prior to said step of preloading, of:

- determining a preferred maximum time (Tmpl) before said predicted event time when said step of preloading can commence **(Kim: Page 10, paragraph 0115, lines 5-9).** *Kim teaches when a preload is required (e.g. If the video is not currently stored on the STB) the Video File Agent (216, Fig.3) displays a movie checkout screen and billing verification information to provide a minimum 15 seconds of buffer time. During this 15 second buffer, the requested video file download is commenced.*

As per Claim 16, further characterised by the step of:

- adapting one or more timing parameters continuously or dynamically in response to a change in the communication network or user behaviour profile **(Kim; Page 11, paragraph 0122, lines 2-5)**. *The timing delay, using short video segments preloaded into the STB, is based on the user behavior profile.*

As per Claim 18, further characterised by the steps of:

- grouping data types into categories based on, for example, one or more of the following: said data types, a priority of said data type **(Kim: Page 4, paragraph 0057, lines 1-3),** *the community of interest database (COI-DB) represents a priority group of specific videos (data types)*, a predicted event time for said data to be preloaded; and
- scheduling a preloading operation of data based on said grouping **(Kim: Page 6, paragraph 0076, lines 14-17),** *the grouped videos generated from the COI-DB are preloaded on the central office storage.*

As per Claim 19, further characterised by the step of: determining whether said cache has available capacity for receiving the preload data prior to commencing said step of preloading **(Belknap: Column 38, lines 2-5).**.

As per Claim 20, wherein the step of determining whether said cache has available capacity includes measuring a rate of cache re-loads **(Belknap: Column 38, lines 35-39).** *Belknap teaches that, on error conditions, a reload may be required and, if so, the conditions are logged and reported back to the host system.*

As per Claim 21, further characterised by the step of:

- determining whether the current time is an economical time to preload said data to said cache, and in response to a positive determination, preloading said data to said cache **(Kim; Page 5, paragraph 0064, lines 5-12).** *Kim teaches the adaptive video analyzer (AVA) predicts subscriber selections to optimize distribution of the data across the network, including preloading to the set top box storage (cache).*

As per Claim 22, wherein the step of determining whether the current time is an economical time includes calculating whether a more economical time may be subsequently available within an acceptable preload window for said step of preloading **(Kim; Page 5, paragraph 0064, lines 5-12).** *Since the AVA has optimized the distribution of data across the network it is implied that the most economical times have been utilized.*

As per Claim 23, the method further characterised by the step of:

- downloading one or more cost parameters associated with one or more network resource(s) **(Kim: Page 5, paragraph 0064, lines 5-8)** to said host machine or said local machine or a remote server accessible by said host machine or said local machine, such that said determination of whether said current time is an economical time to preload said data to said can be made. *Kim teaches the adaptive video file analyzer (VFA) is an intelligent software algorithm that manages the optimal distribution of videos across the network. It would be is*

obvious to a person of ordinary skill in the art that the VFA must have access to associated network costs and select the most economical time in order to optimize the distribution on the network.

As per Claim 24, wherein said step of preloading includes:

- preloading said retrieved data in said cache, based on said user behaviour profile for said local machine, only when network costs are inexpensive, such that said data is made available to said cache user when desired at a substantially minimised cost **(Kim: Page 5, paragraph 0064, lines 5-12).**

As per Claim 25, further characterised by the step of:

- determining whether a communications network **(Kim: 110, 124, xDSL, Fig. 1)** to be used in said preloading step is busy or whether said communications network would be overloaded when commencing the preload operation, and in response to a positive determination delaying said step of preloading said cache **(Kim: Page 5, paragraph 0064, lines 5-9).**

As per Claim 26, wherein, in response to determining that the communications network is busy or would be overloaded, the method is further characterised by the steps of:

- scheduling an entire preload operation for periods when the communication network is not busy; or
- scheduling said step of preloading on a block-by-block basis that provides intervals between said blocks for other users to use said communications network **(Kim: Page 5, paragraph 0064, lines 5-8).** *Kim teaches the core function of the adaptive video file analyzer*

(AVA 202, Fig. 2) is to predict community and subscriber selections so that the optimal distribution of videos occurs across the network, including at the STBs. It would be obvious to a person of ordinary skill in the art that the optimal distribution could include scheduling an operation on either an entire preload or a block by block basis, whichever was the optimal selection for a given network status.

As per Claim 27, A cache **(222, Fig. 1)** preloaded in accordance with claim 1.

As per Claim 28, A local machine **(140, Fig. 2)** characterised by a cache preload function **(216, Fig. 2 and Page 4, paragraph 0054, lines 2-5)** operably coupled to a cache **(222, Fig. 2)** that is preloaded in accordance with claim 1.

As per Claim 29, A local machine comprising:

- a local communication unit **(Kim: 216, Fig. 2)**, *the VFA is a JAVA application which manages the interactivity of the local machine with the host machine. It is obvious that there is a hardware (communication unit) processor to execute the JAVA application,* for operably coupling said local machine **(Kim: 140, Fig. 2)** to a host machine **(Kim: 126, Fig. 2)** via a communication network **(Kim: 110, 124, xDSL, Fig. 1)** and
- a cache **(Kim: 222, Fig. 2)** operably coupled to said local communication unit; the local machine characterised by:
- a preload function **(Kim: 216, Fig. 2)** operably coupled to said cache **(Kim: 222, Fig. 2)** for determining a user behaviour profile for said local machine, predicting a time for data to be required by a user **(Belknap: Column 3, lines 12-15)**;
- calculating a safety margin of time retrieving data relating to said user behaviour profile from said data store in response to said predicted time **(Kim: Page 10, paragraph 0122, line 1-**

Page 11, line 5), e*xaminer further notes that, as proxy caching (preloading) and prefetching were conceived for reducing the burdens of network latency and congestion, it can be argued said safety margin is implicitly disclosed by every time a server chooses to preload data to cache or prefetch from a cache of the prior art. The time a cache chooses to prefetch data, is the time it predicts the data to be required, minus a possible safety margin in order to compensate for network irregularities, in other words: predicted time - safety margin = prefetch time.* and;

- preloading data on said cache based on said user behaviour profile at a time at or before said safety margin prior to said predicted preload time **(Kim: Page 7, paragraph 0085, lines 2-3),** such that said data is made available to said cache user when desired **(Belknap: Column 12, lines 66-67).** .

As per Claim 30, wherein said local machine is a personal digital assistant configured to communicate over, for example, a General packet radio network wireless network to a remote host machine **(Kim: Page 3, paragraph 0038, lines 3-5).**

As per Claim 31,

- a host communication unit **(Kim: 124, Fig. 2)** for operably coupling said host machine **(Kim: 126, Fig. 2)** to a local machine **(Kim: 140, Fig. 2)** via a communication network **(Kim: 110, 124, xDSL, Fig. 1)** and
- a data store **(Kim: 222, Fig. 2)** operably coupled to said host communication unit **(124, Fig. 1)** the host machine characterised by:
- a preload function **(Kim: 216, Fig. 2)**, operably coupled to said data store **(Kim: 222, Fig. 2),** for determining a user behaviour profile for said local machine predicting a time for data to be required by a user **(Belknap: Column 3, lines 12-15)**; calculating a safety margin of

time, retrieving data relating to said user behaviour profile from said data store in response to a predicted time **(Kim: Page 10, paragraph 0122, line 1- Page 11, line 5)**, e*xaminer further notes that, as proxy caching (preloading) and prefetching were conceived for reducing the burdens of network latency and congestion, it can be argued said safety margin is implicitly disclosed by every time a server chooses to preload data to cache or prefetch from a cache of the prior art. The time a cache chooses to prefetch data, is the time it predicts the data to be required, minus a possible safety margin in order to compensate for network irregularities, in other words: predicted time - safety margin = prefetch time.* and preloading data from said data store (130) to a cache (210) on said local machine based on said user behaviour profile, at a time at or before said safety margin prior to said predicted preload time **(Kim: Page 7, paragraph 0085, lines 2-3),** such that said data is made available to a user of said cache when desired **(Belknap: Column 12, lines 66-67).**

As per Claim 32, A host machine **(Kim: 126, Fig. 2)** characterised by a data preload function **(210, Fig. 2)** operably coupled to a data store **(Kim: 102, Fig. 2**), for performing the cache preload steps according to claim 1.

As per Claim 33, A communications system **(Kim: 110, 124, xDSL, Fig. 1)** adapted to support the method **(Kim: 501-513, Fig. 5)** of preloading data on a cache **(Kim: 222, Fig. 1)** in a local machine **(Kim: 140, Fig. 1)** according to claim 1.

As per Claim 34, A communications system **(Kim: 110, 124, xDSL, Fig. 1)** adapted to support a local machine **(Kim: 140, Fig. 1)** according to claim 29.

As per Claim 35, A communications system **(Kim: 110, 124, xDSL, Fig. 1)** adapted to support a local machine **(Kim: 140, Fig. 1)** according to claim 30.

As per Claim 36, A communications system **(Kim: 110, 124, xDSL, Fig. 1)** adapted to support a host machine **(Kim: 126, Fig. 2)** according to claim 31

As per Claim 37, A communications system **(Kim: 110, 124, xDSL, Fig. 1)** adapted to support a host machine **(Kim: 126, Fig. 2)** according to or claim 32.

As per Claim 38, A storage medium storing processor-implementable instructions for controlling a processor to carry out the method of claim 1 **(Kim: Page 5, paragraph 0063, lines 1-5).** *Kim teaches that the preferred embodiment includes three functional components: the Adaptive Video File Analyzer; a Video File Manager; and a Video File Agent. It would be obvious to a person of ordinary skill in the art that these components are processor implementable instructions which would be stored on a machine readable storage medium.*

8. **Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kim et al, US 20020129375** (hereinafter **Kim**), in view of **Belknap et al, US 5586264** (hereinafter **Belknap** as applied to **Claim 1** above, and further in view of **Pang et al, US 6493810**, (hereinafter **Pang**)

The applicant's claims have been carefully reviewed by the examiner of record and it is found that the differences between the subject matter sought to be patented and the prior art now of record are such that the claimed invention would have been obvious at the time of the applicant's invention.

As per Claim 17, further characterised by the steps of:

Kim in view of **Belknap** teaches adapting a timing parameter based on the user profile.

Kim in view of **Belknap** does not teach determining an acceptable cache hit rate.

- applying one or more threshold values to said one or more timing parameters for:

Pang teaches

- determining an acceptable cache hit rate **(114, Fig. 3 and Column 8, lines 48-51)**

and/or

- determining a preload success rate, and

- adapting said one or more timing parameters **(122, Fig. 3)** in response to said determination(s).

Kim and Pang are analogous art because they are from the same field of endeavor of allocating cache for network based services.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the cache hit probability as described by **Kim** in view of **Belknap** with the other analytical determination of the size of cache to achieve the desired cache hit probability as taught by **Pang.**

The motivation for doing so would have been that **Pang** teaches to ensure the most efficient use of the system resources, an application should be allowed to occupy only as much system resources as necessary for it to accomplish its tasks with acceptable performance. Allocating too much resource to an application (user) not only results in a waste of valuable resources but also may interfere with the needs of other applications for the resources **(Column 1, lines 17-24).**

Therefore, it would have been obvious to combine **Kim** in view of **Belknap** with **Pang** to obtain the invention as specified in **Claim 17.**

7. RELEVANT ART CITED BY THE EXAMINER

The following prior art made of record and not relied upon is cited to establish the level of skill in the applicant's art and those arts considered reasonably pertinent to applicant's disclosure. See **MPEP 707.05(c)**.

The following references teach a **caching video content in networks.**

U.S.PATENT/PGPUB NUMBER	FIGURES
20030158982	1
6640284	1 &2

8. CLOSING COMMENTS

Conclusion

a. STATUS OF CLAIMS IN THE APPLICATION

The following is a summary of the treatment and status of all claims in the application as recommended by **M.P.E.P. ' 707.07(i)**:

a(1) SUBJECT MATTER CONSIDERED ALLOWABLE

No subject matter is considered allowable.

a(2) CLAIMS REJECTED IN THE APPLICATION

Per the instant office action, Claims 1-38 have received a first action on the merits and are subject of a first action non-final.

b. DIRECTION OF FUTURE CORRESPONDENCES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRED W. DETSCHEL whose telephone number is (571) 270-1171. The examiner can normally be reached on M-F 7:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Sparks can be reached on 571-271-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Fred W Detschel/

Fred W Detschel
Examiner
Art Unit 2187

/Donald Sparks/
Supervisory Patent Examiner, Art Unit 2187

/F. W. D./